

**REMARKS**

**Status of the Claims**

Claims 1-22 are pending. Claims 5, 7-14 and 16-18 were withdrawn from consideration by the Examiner. Claims 20 and 22 were cancelled by Applicant in this paper without prejudice or disclaimer. Claims 1-4, 6, 15 and 19 and 21 are now under consideration.

**Amendment of Claims**

Claims 1 and 3 were amended to add the word "positively." This amendment finds support throughout the specification, for example, in the abstract, paragraphs 63-84, 137, and 157 (see Patent Application Publication No. 2005/0221327 A1) and the originally filed claims. Claims 1, 3 and 15 were amended to add "a subpopulation of" and "wherein said subpopulation has enhanced chondrogenic potential as compared to the rest of the mammalian mesenchymal stem cell population." This amendment finds support in the specification, for example, in Example 3, as indicated by the Examiner on page 5 of the Office Action of May 23, 2008. Claims 1, 3, and 15 were also amended to substitute "antibody" for "molecule." Dependent claims 19 and 21 were amended accordingly. This amendment finds support in the specification, for example, in paragraph 125 (see Patent Application Publication No. 2005/0221327 A1). Claims 1, 3 and 15 were also amended to remove "or (an) integrin alpha 10 chain and (an) integrin alpha 11 chain." Dependent claims 2 and 4 were amended accordingly. This amendment finds support throughout the specification, for example, in paragraphs 30 and 125 (see Patent Application Publication No. 2005/0221327 A1). Claims 19 and 21 were also amended to add "a monoclonal." This amendment also finds support

throughout the specification, for example, in paragraphs 80-84, 125 and 152 (see Patent Application Publication No. 2005/0221327 A1). Accordingly, none of the amendments added new matter.

**Rejection under 35 U.S.C. § 112, second paragraph**

**Claims 1-4, 6, and 19-22** were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Office Action, page 2. More specifically, claims 1 and 3 were held to be indefinite for being unclear as to whether an inverse or direct correlation exists between the integrin alpha 10 chain expression and the cell being the MSC. Applicant respectfully traverses. Applicant believes that the language of claims 1 and 3 clearly expresses that there is a direct or positive correlation between integrin alpha 10 chain expression and the cell being a MSC. However, solely in order to expedite prosecution, Applicant has amended claims 1 and 3 to add the word "positively."

In light of this amendment, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

**Rejection under 35 U.S.C. § 112, first paragraph**

**Claims 1-4, 6, 15 and 19-22** were rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement. The rejection was maintained essentially for the reasons asserted previously in the Office Actions dated March 13, 2007, and October 17, 2007. Applicant respectfully traverses for the reasons asserted in Applicant's replies to these previous Office Actions. However, in an effort to accelerate the prosecution of this application, Applicant has amended the independent claims 1, 3, and

15 to be commensurate in scope with the invention indicated as enabled by the Examiner on pages 4-5 of the Office Action of May 23, 2008. These claims now recite a subpopulation of MSCs that has enhanced chondrogenic potential as compared to the rest of the mammalian mesenchymal stem cell population.

In light of this amendment, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, first paragraph, as lacking enablement be withdrawn.

Applicants reserve the right to pursue broader claims in a continuation application.

**Claims 1-4, 6, 15** were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Office Action, page 7. Specifically, the Office contends that the specification lacks written description to support the claim term "a molecule which specifically binds integrin alpha 10 chain," because the only such molecule disclosed in the specification allegedly is anti- $\alpha$ 10 antibody. Applicant respectfully traverses. Besides anti- $\alpha$ 10 antibody, the specification also discloses other proteins or peptides, such as, for example, natural ligands of  $\alpha$ 10, as well as nucleic acid probes specific for the mRNA of  $\alpha$ 10, as suitable molecules which specifically bind integrin  $\alpha$ 10 chain. However, in an effort to accelerate the prosecution of this application, Applicant has amended claims 1, 3 and 15 to specify that the "molecule which specifically binds integrin alpha 10 chain" is an anti- $\alpha$ 10 antibody.

In light of the remarks and the amendment, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, first paragraph, as lacking written description be withdrawn.

**Conclusions**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims. If the Examiner believes a telephone conference would be useful in resolving any outstanding issues, the Examiner is invited to call the undersigned at (202) 408-4173.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By: 

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